

CLAIM AMENDMENTS:

1-14. (cancelled)

15. (new) A laser gas for an ArF excimer laser, which contains a halogen gas, a rare gas and a buffer gas, and which is sealed in a chamber of the ArF excimer laser, wherein the laser gas contains Xe other than the halogen gas, the rare gas and the buffer gas, and the buffer gas mainly consists of He.

16. (new) An ArF excimer laser, comprising:

a laser gas containing a halogen gas, a rare gas, a buffer gas and Xe, the buffer gas mainly consisting of He;

a chamber for sealing the laser gas;

a pair of discharging electrodes disposed to oppose each other in the chamber, for exciting the laser gas by electric discharges;

a fan for circulating the laser gas in the chamber to guide the laser gas between the pair of discharging electrodes; and

an optical resonator for oscillating via the chamber a laser light generated by the electric discharges across the pair of discharging electrodes and band-narrowing the laser light.

17. (new) The ArF excimer laser according to claim 16, wherein, a laser light having a high pulse frequency is obtained by making a rotational speed of a fan higher, by the laser gas, than a case where the buffer gas is Ne.

18. (new) A scanning type exposure system, comprising:

an ArF excimer laser which seals in a chamber a laser gas containing a halogen gas, a rare gas and a buffer gas mainly consisting of He and outputs a pulsed laser light; and

a scanning type exposure device which performs exposure of an entire semiconductor chip on a wafer by moving the wafer while irradiating the pulsed laser light from the ArF excimer laser to each of a plurality of irradiation regions smaller than an area of the semiconductor chip.

19. (new) The scanning type exposure system according to claim 18, wherein, a laser light having a high pulse frequency is obtained by making a rotational speed of a fan higher, by the laser gas, than a case where the buffer gas is Ne.

20. (new) The scanning type exposure system according to claim 18, wherein the laser gas contains Xe.

21. (new) An ultraviolet laser gas supply device which supplies a gas for ultraviolet laser containing a buffer gas, a halogen gas and a rare gas into a chamber of an ultraviolet laser device, and which adds 1 to 100 ppm of xenon gas to the gas for ultraviolet laser, comprising:

an ultraviolet laser gas cylinder in which the gas for ultraviolet laser is sealed;

a xenon gas cylinder in which the xenon gas is sealed;

a first piping having a first and second ends, and first valve and a second valves arranged between the first and second ends of the first piping, the first end of the first piping communicating with the chamber and the second end of the first piping communicating with the ultraviolet laser gas cylinder;

a second piping having first and second ends and a third valve, the first end of the second piping communicating with the first piping between the first and second valves of the first piping, and the second end of the second piping communicating with the xenon gas cylinder; and

a pressure gauge for measuring a gas pressure within the first piping and the second piping that are sectioned by the first valve, the second valve and the third valve.

22. (new) An ultraviolet laser gas supplying method for supplying a gas for ultraviolet laser containing a buffer gas, a halogen gas and a rare gas into a chamber of an ultraviolet laser device, and adding 1 to 100 ppm of xenon gas to the gas for ultraviolet laser, comprising the steps of:

using an ultraviolet laser gas supply device including: an ultraviolet laser gas cylinder in which the gas for ultraviolet laser is sealed; a xenon gas cylinder in which the xenon gas is sealed; a first piping having a first and second ends, and first valve and a second valves arranged between the first

and second ends of the first piping, the first end of the first piping communicating with the chamber and the second end of the first piping communicating with the ultraviolet laser gas cylinder; a second piping having first and second ends and a third valve, the first end of the second piping communicating with the first piping between the first and second valves of the first piping, and the second end of the second piping communicating with the xenon gas cylinder; and a pressure gauge for measuring a gas pressure within a mixture piping that is sectioned by the first valve, the second valve and the third valve,

exhausting the laser gas in the chamber in a state that the second valve and the third valve are closed and the first valve is opened;

supplying the xenon gas into the mixture piping in a state that the first valve and the second valve are closed and the third valve is opened; and when a measure value of the pressure gauge has reached a predetermined gas pressure, supplying the xenon gas in the mixture piping and the ultraviolet laser gas in the ultraviolet laser gas cylinder into the chamber in a state that the third valve is closed and the first valve and the second valve are opened.